Canada's Nuclear Regulator
L'organisme de réglementation nucléaire du Canada

Nuclear Substances and Radiation Devices Licence Application Form

PART A – APPLICANT INFORMATION

A.1 Type of request

☐ New licence ☐ Renewal Current licence # _____

A.2 Language of licence

☐ English ☐ French ☐ Both

A.3 Public access to information

Is any part of this application subject to a request for exemption from the CNSC policy on public access to licensing information?

☐ No

☐ Yes Explain why:

Additional information appended as: _____

A.4 Name of applicant

A.5 Eligibility of applicant

The applicant is : ☐ Incorporated company ☐ Public Institution ☐ Sole Proprietorship

A.6 Proof of legal status

Appended as: _____

A.7 Financial contact person

Name: _____ Title: _____

Telephone: _____ Facsimile: _____

Email: _____

Address: _____

A.8 Financial guarantees

Append information regarding the value and form of the financial guarantee, if required.

Form appended as: _____

continued on next page

A.9 Description of proposed licence

Indicate all relevant use-types associated with this application:

- ☐ Portable gauges (811)
- ☐ Industrial radiography (812)
- ☐ Laboratory studies (813)
- ☐ Fixed gauges (814)
- ☐ Consolidated licenses (815)
- ☐ Logging sealed source (816)
- ☐ Development and testing of devices (817)
- ☐ Basic servicing (822)
- ☐ Complex servicing (823)
- ☐ Distribution: drop shipment (824)
- ☐ Distribution: less than 740 MBq (825)
- ☐ Distribution: 740 MBq or more (826)
- ☐ Sub-surface zone location (844)
- ☐ Sub-surface tracer studies (846)
- ☐ Processing a quantity exceeding 10GBq (847)
- ☐ Manufacturing of nuclear substances (851)
- ☐ Tracer studies (858)
- ☐ Diagnostic nuclear medicine (862)
- ☐ Processing a quantity not exceeding 10 GBq (863)
- ☐ Device manufacturing (864)
- ☐ Neutron activation (867)
- ☐ Borehole tube tagging (868)
- ☐ Therapeutic nuclear medicine (872)
- ☐ Research: more than 50 MBq (873)
- ☐ Human research studies (875)
- ☐ Irradiation: self-shielded type (878)
- ☐ Calibration (879)
- ☐ X-ray fluorescence (880)
- ☐ Electron capture detection (881)
- ☐ Bone mineral analysis (883)
- ☐ Repair of components containing radioactive luminous compounds (885)
- ☐ Beta backscatter gauges (886)
- ☐ Electronic component testing (888)
- ☐ Research: up to 50 MBq (889)
- ☐ Teaching (More than 50 MBq) (894)
- ☐ Fuel gauges on board aircraft (895)
- ☐ Dew point detection (896)
- ☐ Static elimination (897)
- ☐ Static detection (898)
- ☐ Radioluminescence (899)
- ☐ Surge voltage protection (900)
- ☐ Radioactive luminous compounds (901)
- ☐ Remote blade inspection (902)
- ☐ Storage (906)
- ☐ Teaching: up to 50 MBq (907)
- ☐ Demonstration (908)
- ☐ Veterinary nuclear medicine (915)
- ☐ Possession of deuterium (916)
- ☐ Temporary possession (918)
- ☐ Radioactive check sources (919)
- ☐ Liquid Scintillation Counters (940)

Append additional information, if necessary.

Appended as: _____

continued on next page

PART B – PURPOSE OF PROPOSED LICENCE

B.1 Canadian head office (or agent for service in Canada)

Head Office Address:

Street address: _____

City: _____

Province: _____ Postal Code: _____

B.2 Mailing address

☐ **Same as above (if address is different, fill in address in the space below)**

Street address: _____

City: _____

Province: _____ Postal or zip code: _____

Country (if other than Canada): _____

B.3 Applicant authority

Complete and sign the appropriate Applicant Authority form, which is available by contacting CNSC or visiting the CNSC Web site at nuclearsafety.gc.ca

Form appended as: _____

B.4 Licence activities

☐ Possess ☐ Use ☐ Store ☐ Transfer ☐ Import ☐ Export ☐ Service ☐ Abandon

Additional justification for import and/or export activities appended as:

_____

B.5 Location

Main Address of Storage and/or Use

Building: _____ Room # _____

Street: _____

City: _____ Province: _____ Postal Code: _____

☐ Used at ☐ Stored at ☐ Both

Location to be rented or leased? ☐ Yes ☐ No

If yes, provide written confirmation from the owner or landlord as described in B.5 of the guide.

Written confirmation appended as: _____

Append additional information regarding other locations of storage and/or use.

Appended as: _____

continued on next page

B.6 Unsealed sources

Nuclear substance	Maximum activity in possession at any one time	Total activity to be acquired per year

Additional information regarding unsealed sources is appended as:

B.7 Sealed sources

Nuclear substance	Maximum activity to be contained in any single source	Number of sealed sources greater than 50 MBq to be acquired

Additional information regarding sealed sources is appended as:

B.8 Radiation devices

Nuclear substance	Maximum activity	Manufacturer	Name of device	Model number	Number of devices

Additional information regarding radiation devices is appended as:

continued on next page

PART C – RADIATION PROTECTION PROGRAM

(Please note: This part does not need to be completed for low-risk use-types.)

C.1 Management structure

Append a description of the management and organizational structures that relate to radiation safety.

Appended as: _____

C.2 Radiation safety officer (RSO)

Name: _____ Title: _____

Address: _____

Telephone: _____ Facsimile: _____

Email: _____

Signature of Applicant Authority designating Radiation Safety Officer.

Date: _____ (YYYY) / _____ (MM) / _____ (DD) Signature: _____

C.3 Radiation safety officer job description and qualifications

Append a copy of the job description and qualifications of the Radiation Safety Officer.

RSO's job description appended as: _____

RSO's qualifications appended as: _____

C.4 Radiation safety officer acknowledgement

I accept the roles and responsibilities as described in the RSO job description. ☐ Yes ☐ No

Date: _____ (YYYY) / _____ (MM) / _____ (DD) Signature: _____

C.5 Alternate radiation safety officer(s) (if applicable)

Name: _____ Title: _____

Address: _____

Telephone: _____ Facsimile: _____

Email: _____

Alternate RSO's qualifications appended as: _____

Information regarding other alternate RSOs appended as: _____

C.6 Signing authorities (see guide for definition of signing authority)

Is the RSO from section C.2 designated as a signing authority? ☐ Yes ☐ No

Name of signing authority	Title	Limitations of authority (if applicable)	Signature of signing authority	Signature of applicant authority (for designation)

Information regarding other signing authorities appended as: _____

continued on next page

PART D – RADIATION SAFETY PROGRAM POLICIES AND PROCEDURES

(Please note: This part does not need to be completed for low-risk use-types.)

D.1 As Low As Reasonably Achievable (ALARA) Program

Append the policies and procedures of the ALARA program.

Appended as: _____

D.2 Classification of workers

D.2.1 Append a list of all job categories for workers using or working in the vicinity of nuclear substances and radiation devices.

Appended as: _____

D.2.2 Append a list of the names of all persons designated as NEWs including their job category.

Appended as: _____

D.2.3 Append the policy and procedures for classifying workers as NEWs. Include NEW designation form, if applicable.

Appended as: _____

D.3 Worker training and authorization

D.3.1 Append a detailed description of the proposed radiation safety training program for each job category.

Appended as: _____

D.3.2 Append the policy and procedures which ensure that only workers trained in the use of nuclear substances and radiation devices will be permitted to use nuclear substances and radiation devices.

Appended as: _____

D.4 Ascertaining and recording doses to workers

D.4.1 Append the procedures for ascertaining and recording radiation doses received by all workers.

Appended as: _____

D.4.2 For new licences, provide dose estimates for all categories of workers.

Appended as: _____

D.4.3 For renewals, append a summary of the annual radiation doses for each worker.

Appended as: _____

D.5 Action levels

Append a description of any proposed action levels and the actions to be taken if they are reached.

Description appended as: _____

D.6 Control of radioactive contamination (where unsealed nuclear substances are handled)

D.6.1 Append the policy and procedures for maintaining contamination control.

Appended as: _____

D.6.2 Append the procedures for monitoring contamination where unsealed nuclear substances are used or stored. Describe the actions to be taken if contamination limits are exceeded.

Appended as: _____

D.7 Radiation detection instruments

Append a list of all radiation detection instruments to be used.

List appended as: _____

continued on next page

D.8 Leak testing of sealed sources

Append the policy and procedures to be followed for leak testing of sealed sources.

Appended as: _____

D.9 Access Control and Security

D.9.1 Append the policy and procedures for restricting access to nuclear substances and radiation devices to authorized workers.

Appended as: _____

D.9.2 Append the policy and procedures that outline the process for alerting the applicant to the loss, theft or unauthorized use of nuclear substances or radiation devices.

Appended as: _____

D.10 Receipt of packages

Append the policy and procedures for receiving shipments containing nuclear substances and radiation devices.

Appended as: _____

D.11 Packaging and transport of nuclear substances and radiation devices

Append the policy and procedures for packaging and transporting nuclear substances and radiation devices.

Appended as: _____

D.12 Controlling possession of nuclear substances and radiation devices

D.12.1 Append the policy and procedures to account for nuclear substances and radiation devices.

Appended as: _____

D.12.2 Append the procedures to ensure that the inventory of nuclear substances and radiation devices does not exceed the licence limit.

Appended as: _____

D.13 Management of radioactive wastes

D.13.1 Disposal of nuclear substances and radiation devices

Append the policy and procedures for handling and disposing of waste containing nuclear substances.

Appended as: _____

D.13.2 Transfer of nuclear substances (for renewals)

Append a summary of the annual activity of each nuclear substance and radiation device transferred during the previous licensing period.

Appended as: _____

D.14 Emergency procedures

Append the policy and procedures that will be used in incidents, accidents and other events that involve nuclear substances and radiation devices.

Appended as: _____

D.15 Decommissioning

Append the policy and procedures that are related to decommissioning or remediation of licensed locations.

Appended as: _____

continued on next page

D.16 Record and reporting system

D.16.1 Append the policy and procedures for the reporting of incidents and events.

Appended as: _____

D.16.2 Append the policy and procedures that outline the process for retention of records.

Appended as: _____

D.16.3 Append a list of documents that will be retained at each location of licensed activity including field locations.

Appended as: _____

D.17 Posting of radiation warning signs

Append the policy and procedures that limit the storage of nuclear substances and radiation devices to rooms designated as locations for use and/or storage. Also append information regarding the posting of radiation warning signs for these locations.

Appended as: _____

D.18 Classification of rooms (for unsealed nuclear substances only)

D.18.1 Append the policy and procedures for classifying areas, rooms or enclosures.

Appended as: _____

D.18.2 Append a plan for every nuclear medicine room or department and adjacent areas. Include a list of the rooms and their classifications, where the activities to be licensed are conducted.

Appended as: _____

D.19 Internal review

Append the policy and procedures for conducting internal compliance, monitoring, enforcement and verification of all licensed activities.

Appended as: _____

continued on next page

PART E – SPECIFIC REQUIREMENTS BASED ON PROPOSED LICENCE ACTIVITY

E.1 Nuclear medicine and human research studies (use-types 862, 872, 875)

E.1.1 Medical practitioner

Name: _____ Telephone: _____

Email: _____ Facsimile: _____

Signature of Applicant Authority to indicate designation of medical practitioner.

Date: _____ (YYYY) / _____ (MM) / _____ (DD) Signature: _____

Acknowledgement of practitioner:

Pursuant to section 16 of the *Nuclear Substance and Radiation Devices Regulations*, I confirm that I am a qualified medical practitioner registered with the College of Physicians and Surgeons of _____ and that my role as "Medical Practitioner" is consistent with my registration with the College and the activities for which this application is being made.

Date: _____ (YYYY) / _____ (MM) / _____ (DD) Signature: _____

Provincial college licence/registration #: _____

Information regarding additional Medical Practitioners appended as:

_____

E.2 Therapeutic nuclear medicine (use-type 872)

E.2.1 Administration of nuclear medicine therapy doses

Append the policy and procedures for delivering radiation doses to patients for therapeutic reasons during the activities to be licensed.

Appended as: _____

E.2.2 Instructions to caregivers

Append the instructions that are to be given to persons who will care for a patient who has undergone nuclear medicine therapy.

Appended as: _____

E.2.3 Instructions to patients of nuclear medicine therapy and their families

Append the instructions that are to be given to patients who have recently received nuclear medicine therapy in order to control radioactive contamination effects and radiation exposures to others.

Appended as: _____

E.2.4 Release of patients

Append the policy and procedures for determining when patients that have received nuclear medicine therapy must be isolated and when they may be released from isolation.

Appended as: _____

E.2.5 Assignment of nuclear medicine therapy rooms

Append the procedures used to assure that patients undergoing nuclear therapy with Iodine-131 will be assigned to a specifically designated private room with a private washroom.

Appended as: _____

E.2.6 Decontamination and release of treatment rooms

Append the procedures for returning rooms that have been used for nuclear medicine therapy to a condition where they can be safely released for other purposes.

Appended as: _____

continued on next page

E.2.7 Medical emergencies

Append the policy and procedures for responding to medical emergencies that involve patients treated with nuclear substances during the activities to be licensed.

Appended as: _____

E.3 Human research studies (use-type 875)

E.3.1 Human research review committee

Append information regarding the proposed human research review committee, or its equivalent.

Appended as: _____

E.3.2 Authorization of research studies

Append a description of the proposed process and criteria for the assessment and authorization of human research studies.

Appended as: _____

E.3.3 Classification of research studies

Append a statement of the proposed research studies and their proposed radiation dose constraints.

Appended as: _____

E.3.4 Selection of volunteer participants

Append the policy and criteria for selecting human research volunteers.

Appended as: _____

E.3.5 Consent form

Append the policy and procedures for obtaining and assuring informed consent of human research volunteers.

Appended as: _____

E.3.6 Records of studies

Specify where the records of all studies using nuclear substances on human volunteers are to be maintained and made available for CNSC inspection

Location of records

Name of study: _____

Address: _____

Name of study: _____

Address: _____

Information regarding locations where other records will be stored is appended as:

_____

E.4 Consolidated uses of nuclear substances (use-type 815)

E.4.1 Internal authorization/permits

Append the policy and procedures for administering an internal permit system.

Appended as: _____

E.4.2 CNSC approval for special projects

Append the policy and procedures for obtaining written CNSC approval prior to issuing an internal authorization permit for special project.

Appended as: _____

continued on next page

E.5 Industrial radiography (use-type 812)

E.5.1 Emergency and operating procedures manual

Append the Emergency and Operating Procedures Manual.

Appended as: _____

E.5.2 Application for registration of use of packages (one per certificate)

Append a copy of the Registration of Use of Packages application for each package.

Appended as: _____

E.5.3 Maintenance and use of exposure devices (for renewals only)

Provide sample copies of records of the quarterly and annual maintenance of exposure devices and associated equipment and of camera use records.

Appended as: _____

E.5.4 Safety and emergency equipment

List all safety and emergency equipment which is used as part of the daily radiography operations. List any additional shielding materials.

Appended as: _____

E.5.5 Specialized training and personnel

List all persons, along with their training, which are qualified to respond to incidents specified in section E.5.5 of the guide.

Appended as: _____

E.6 Low-risk use of nuclear substances and radiation devices (use-types 880, 881, 883, 885, 886, 888, 889, 895, 896, 897, 898, 899, 900, 901, 902, 907, 908, 919, 940)

E.6.1 Radiation safety officer

Name: _____ Title: _____

Address: _____

Telephone: _____ Facsimile: _____

Email: _____

Signature of Applicant Authority designating Radiation Safety Officer.

Date: _____ / _____ / _____ Signature: _____
YYYY MM DD

E.6.2 Radiation safety officer acknowledgement

By signing this the Radiation Safety Officer assumes the following responsibilities:
- ensuring adherence to the ALARA principle
- ensuring safe use of radiation devices and sealed sources
- training staff in basic radiation safety
- ensuring compliance with leak-testing requirements, if applicable
- managing emergencies involving radiation devices and sealed sources
- acting as a contact person for the CNSC
- maintaining complete records

Date: _____ / _____ / _____
YYYY MM DD

Signature:

_____

E.6.3 Sealed source or radiation device incidents (for renewals only)

Append a brief description of any occurrence or incident in the previous licensing period that required investigation as well as any remedial action taken.

Appended as: _____

continued on next page

E.6.4 Access control and security

Is the access to the radiation devices and/or sealed sources controlled by any of the following? Please check all that apply or describe appropriate access control measures.

☐ lock ☐ security guard ☐ alarm system

☐ other (description appended as: _____)

E.6.5 Leak testing

☐ Leak test requirements do not apply. ☐ Leak test requirements do apply.

If leak test requirements do apply append a description of how the leak testing will be conducted.

Appended as: _____

E.6.6 Emergency procedures

a) If a positive leak-test result is reported, the leaking device must be taken out of use. The device should be properly packaged and sent to the licensed service provider for repair or disposal.
b) Any loss of sealed sources and radiation devices must be reported to the CNSC immediately, with the full report of the loss sent within 21 days of the incident.
c) It is advisable to notify the local fire department about the location of the radiation device and/or sealed source in advance of a fire. If a source or a device was involved in fire, put the barriers at least 1 m around the device, if possible. Immediately contact the RSO, who will visually inspect the device and estimate the extent of damage.

When appropriate, a radiation survey meter or contamination meter may be used to locate the sealed source or radiation device. In the case of little or no damage, a leak test (if applicable) must be performed before using the device or source.

When the damage is extensive, the source or the device should be properly packaged and sent for disposal to the licensed service provider. Depending on the nuclear substance in the sealed source or radiation device, a complete radiation survey may be necessary to verify that there is no contamination of the area where the source or device was damaged.

☐ Yes, we adopt these emergency procedures.
☐ No, we do not adopt these procedures and have developed our own emergency procedures.

Emergency procedures appended as: _____

E.6.7 Records retention and reporting

Append the policy and procedures for reporting incidents and events to the CNSC.

Appended as: _____

Append the policy and procedures that outline the process for retention of records.

Appended as: _____

E.7 Veterinary nuclear medicine (use-type 915)

E.7.1 Veterinary procedures

Append the procedures used to administer nuclear substances to animals.

Appended as: _____

E.7.2 Animal housing

Append the policy and procedures regarding the housing controls imposed on animals undergoing veterinary nuclear medicine.

Appended as: _____

continued on next page

E.7.3 Disposal of animal waste

Append the policy and procedures for management of animal waste arising from veterinary nuclear medicine.

Appended as: _____

E.7.4 Animals treated with Iodine-131

Append the policy and procedures for housing and waste disposal for animals treated with Iodine-131.

Appended as: _____

E.7.5 Animals injected with Technetium-99m

Append the policy and procedures used when dealing with animals that have been injected with Technetium-99m.

Appended as: _____

E.7.6 Monitoring and release of animal housing

Append the policy and procedures for monitoring and release of animal housing.

Appended as: _____

E.7.7 Release of animals

Append the criteria used by the applicant to decide when animals treated with nuclear substances can be released to their owners.

Appended as: _____

E.7.8 Treatment consent form

Append a copy of the consent form that will be signed by the owner before the animal is treated with radionuclides.

Appended as: _____

E.8 Fixed gauges (use-type 814)

E.8.1 Procedures

Append the policy and procedures that detail the handling of fixed gauges.

Appended as: _____

E.8.2 Rules for entry into vessels or hoppers

Append the policy and procedures to enter vessels or hoppers fitted with fixed gauges.

Appended as: _____

E.8.3 Installation and dismounting of fixed gauges

Append the policy and procedures for the installing and/or dismounting of fixed gauges.

Appended as: _____

E.8.4 Operation of insertion-type fixed gauges

Append the policy and procedures to handle the insertion-type fixed gauges.

Appended as: _____

E.8.5 Emergency procedures for fixed gauges

In addition to the information provided in D.14, append procedures specific to dealing with fire.

Appended as: _____

If no radiation survey meter is available on site, append information to demonstrate that the survey meter will be available during an emergency in less than four hours.

Appended as: _____

continued on next page

E.9 Petroleum exploration (use-types 816, 844, 846, 858)

E.9.1 Release of nuclear substances to the environment

Append the policy for monitoring releases of nuclear substances to the environment.

Appended as: _____

E.9.2 Fishing for stuck tools/sources

Append the policy and procedures that will be used during an emergency that involves fishing for stuck tools and sources.

Appended as: _____

E.9.3 Abandonment of sealed sources

Append the policy and procedures for the proposed abandonment of sealed sources.

Appended as: _____

E.9.4 Abandonment of unsealed sources

Append the policy and procedures for the proposed abandonment of unsealed nuclear substances following sub-surface zone location or sub-surface tracer studies.

Appended as: _____

E.10 Portable gauges (use-type 811)

E.10.1 Emergency procedures

In addition to the information provided in D.14, append the procedures specific responding to and managing situations involving crushed or damaged portable gauges.

Appended as: _____

If no radiation survey meter is available on site, append information to demonstrate that the survey meter will be available during an emergency in less than two hours

Appended as: _____

To submit the completed application:

Mail the completed application form, together with all relevant documentation to:

Canadian Nuclear Safety Commission
Directorate of Nuclear Substance Regulation
P.O. Box 1046, Station B
280 Slater Street
Ottawa ON, K1P 5S9

Fax: 613-995-5086

The application form, together with all relevant documentation may also be submitted electronically.

Email: forms-formulaires@cnsc-ccsn.gc.ca